

Claims:

1. Process for preparing C(O)F_2 by photooxidizing CHClF_2 or CHF_3 with oxygen.
2. Process according to Claim 1, characterized in that the irradiation is undertaken in the absence of chlorine and the incident light which may have wavelengths including $< 280 \text{ nm}$, or in that the irradiation is undertaken in the presence of elemental chlorine with light of a wavelength of $\geq 280 \text{ nm}$, in which case not more than 0.50 mol of elemental chlorine is present in the reaction mixture per mole of CHClF_2 or CHF_3 .
3. Process according to Claim 1, characterized in that 0.05 to 0.20 mol of elemental chlorine is present per mole of CHClF_2 or CHF_3 .
4. Process according to Claim 1, characterized in that the irradiation is carried out at a temperature of 20 to 300°C , preferably 30 to 300°C , in particular 50 bis 90°C .
5. Process according to Claim 1, characterized in that the irradiation is carried out at a pressure of 1 to 11 bar (abs.).
6. Process according to Claim 1, characterized in that the reactants are present in gaseous form.
7. Process according to Claim 1, characterized in that the reaction is carried out continuously.
8. Process according to Claim 7, characterized in that the average residence time in the reactor is between 0.1 and 3 minutes.
9. Process according to Claim 1, characterized in that CHClF_2 is used as the starting compound.